

aggressive form of care for patients in cardiogenic shock. In-depth physiologic principles that involve a sound understanding of cardiovascular complications, with indications for physiologic and psychologic interventions, are necessary to aid the nurse during this critical period, moreover the cardiovascular nurses caring for these patients require skills and knowledge that enable prompt recognition and treatment of sometimes life-threatening complications associated with balloon pump therapy. Briefly, the intraaortic balloon pump is a specific and aggressive form of care for patients in cardiogenic shock. From the experience acquired in the treatment of cardiogenic shock and in the use of the IABP, it has emerged the unavoidable need to resort as soon as possible to IABP and intensive care to avoid multi-organ damages highly associated to mortality. The ICU nursing professional, who works with more and more sophisticated technologies and devices, has always to be acquainted with current literature, in order to ensure a better nursing care and to reduce complications.

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## 50. Successful percutaneous closure of spiral atrial septal defect

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Device occlusion of secundum septal defects has become an accepted means of closure in cases where the anatomy of the atrial septum is judged suitable. Selection criteria have included adequacy of the rims around the defect, particularly the inferior margin and the size of the defect in relation to the total septal length.

An unusual morphology of atrial septal defect has been described where there is an apparently “double atrial septum” (Roberson, 2006). The terminology around this lesion has been attributed to be the wide separation of the primary atrial septum (primum septum) from the secondary septum (septum secundum) and the “spiral” spatial arrangement of the margins of the atrial septal defect (ASD) has led to the term spiral ASD to describe this arrangement. This has been described to be associated with a high risk of device embolization or technical failure in the placement of an occluder device. We report the echocardiographic findings and outcome of a patient with this form of ASD in whom percutaneous occlusion was successful of which is considered up to date to be the first successful closure of this type of ASD.

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## 51. The use of bedside critical care US to detect occult diaphragmatic paresis in post-operative cardiac children

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**Background/Aim:** Diaphragmatic dysfunctions after pediatric cardiac surgery are not rare. The use of bedside diaphragmatic US to evaluate motion abnormalities was reported in small series of children. To evaluate the role of bedside US performed in PCICU by intensivist in detecting occult diaphragm dysfunction after cardiac surgery in children.

**Methods:** Prospective analysis of diaphragm US performed from June 2014 till September 2014, in pilot group of children admitted to PCICU after cardiac surgery with CXR not suggesting of diaphragm abnormalities.

The initial screening was performed by PCICU intensivists and verified by independent blind radiologists. **Results:** During the study period, 31 PCICU patients were selected to have bedside focus US to assess diaphragm motion. Their average age 15 months and average post day was  $5 \pm 2$  days.

Out of 31 selected pilot cases: 4/31 had occult diaphragm paresis (12%). 2/31 had Right diaphragm paresis after sternotomy, 1/31 Left diaphragm paresis after left thoracotomy, 1/31 bilateral diaphragm paresis after redo-sternotomy.

Bedside diaphragm US of performed by intensivists was highly sensitive and reliable.

**Conclusions:** Bed side critical care US assessment of diaphragms is a simple tool that can be easily learn and performed by PCICU intensivist. The tool can help in early detection of diaphragm motion abnormality related to cardiac surgery. Early detection can help putting management plan that may involve need for surgery or require prolong positive invasive and non-invasive ventilator support.

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## 52. Cardiac injury in infants with acute gastroenteritis: Is it ischemia or rota associated carditis

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Reports suggested that rotavirus could be found in extra-intestinal tissues including the heart following infection and fatal rotavirus myocarditis has been recently reported in 2 children.